# NOTES ON THE GENUS *LESTOPHONUS*, WILLISTON, AND DESCRIPTION OF A NEW SPECIES.

By Frederick A. A. Skuse.

Rather more than two years has elapsed since Mr. Frazer S. Crawford, of Adelaide, made the important discovery that a small Dipterous insect was parasitic upon, and destroyed, the adult females of the Coccid *Icerya Purchasi*, Mask., thus checking the overproduction of a species so notorious for its serious depredations on several important trees, especially of the orange kind, in certain other countries, but which is credited with being indigenous to Australia. Shortly subsequent to the detection of this parasite, the above-mentioned gentleman forwarded to Professor Riley of the United States Department of Agriculture (Div. of Entom.) at Washington, a few specimens (and drawings), together with one or two specimens of a fly of similar appearance, regarded as being specifically identical with the former, but which had been reared from the adult females of another distinct Coccid, *Monophlebus Crawfordi*, Mask.

For several years *Icerya Purchasi* has been committing extensive and costly ravages in California, so that American Entomologists naturally manifested considerable interest in the discovery of this deadly parasite. The specimens of the fly sent to Professor Riley were speedily submitted to Dr. Williston for examination; the opinion was expressed that the fly belonged to a new genus referable to the Oscinidæ, and the insect was eventually described under the name *Lestophonus iceryæ*, in the "Bulletin of the Entomological Dept.," (Washington) for July, 1888. Shortly afterwards an experienced Entomologist, Mr. A. Koebele, attached to the U.S. Department of Agriculture, visited Australia in order to

investigate *Icerya Purchasi* and its parasites, and during his stay in this country sent some thousands of specimens of infested *Icerya Purchasi* and *Monophlebus Crawfordi* to America in order to introduce their natural enemies into the agricultural districts of California plagued with the former.

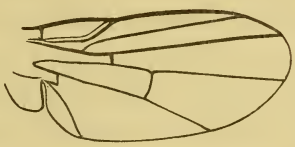
During the last few weeks I have bred large numbers of *Lestophonus* from both the *Icerya Purchasi* and *Monophlebus Crawfordi*, with the view to ascertain if the species be really identical or not, and having carefully and minutely examined these, and also other specimens kindly transmitted to me by Mr. Crawford, it appears clear that the accepted specific identity of the two has been founded on insufficient evidence. This might be accounted for by the meagreness of the material at the disposal of Dr. Williston when he described *L. iceryæ*, or from the possibility that amongst the three or four specimens before him only one represented the *Monophlebus* fly, while even had the author detected a slight difference in an individual, as perhaps the parasites were not separated according to their respective hosts, the dissimilarity would not unlikely have been considered merely varietal; while on the other hand, as Mr. Crawford points out to me, it is not absolutely certain that Dr. Williston did receive both species for examination. It is not easy to say from the description which species the author really described, and were it not almost beyond doubt that it does refer to one of these two, it might otherwise be thought to possibly mean a different insect; the length given at the beginning of the description is, to start with, that of an insect only half the size of the female of the true *Icerya* parasite. Further, it is utterly out of the question to decide from the rough figure given of the fly, which indeed serves only to imperfectly set forth the generic characters, while the wing (the shape of which is inaccurate) exhibits a venation equally unrepresentative in detail of both flies. The legs are also very unlike those depicted.

Considering the number of specimens which have lately reached America it is not unreasonable to expect that the *Monophlebus*

parasite has been separated from the other and characterised; but with a view of assisting in the exact determination, I now describe it under the name *Lestophonus monophlebi*, and in addition make the original description of *L. iceryæ* more complete.

LESTOPHONUS ICERYÆ, Williston.

♂.—Long. 0·050 inch, 1·27 mm. ♀.—Long. 0·080 inch, 2·02 mm. Antennæ black, the large terminal joint squarish at the apex, with a microscopic spine before the apex above. Eyes reddish brown, rather longer and narrower than in *L. monophlebi*. Ocelli disposed in a rather narrower triangle than in *L. monophlebi*. Face, front, thorax and scutellum deep blue, subnitidous. Abdomen deep shining green, punctulate. Coxæ, femora, and tibiæ dark brown, or blackish-brown; all the tarsi brownish-yellow. Wings greyish-hyaline, the veins dark brown. Course of the auxiliary vein indicated by a very pale line running close to the first longitudinal; reaching the costa; slightly yellowish at the base. First longitudinal vein more or less angular at the bend. Middle transverse vein situated a little before the tip of the first longitudinal and much nearer to the origin of the second longitudinal than to the hinder transverse vein. Ultimate section of the fifth longitudinal vein more than twice the length of the hinder transverse vein.



Bred from *Icerya Purchasi*, Mask., in February.

LESTOPHONUS MONOPHLEBI, sp.n.

♀.—Long. 0·070 inch, 1·77 mm. Antennæ black, the large terminal joint rounded at the apex, with a microscopic tubercle before the apex above. Eyes reddish-brown, shorter and broader than in *L. iceryæ*. Face, front, thorax and scutellum deep blue, levigate. Abdomen generally deep shining purplish-black, indistinctly punctulate. Coxæ, femora and tibiæ very deep blue; all

the tarsi brownish-yellow. Wings greyish-hyaline, the veins brown, with the fourth and fifth longitudinal veins much paler from the hinder transverse vein to the posterior margin. Auxiliary vein brownish-yellow, indistinct, close to the first longitudinal, determinable as far as opposite to, or a little past, the origin of the second longitudinal, continuing from thence to the costa as a very pale line. First longitudinal always rounded at the bend. Middle transverse vein situated somewhat beyond the tip of the first longitudinal vein and nearer to the hinder transverse vein than to the origin of the second longitudinal. Hinder transverse vein forming with the fifth longitudinal an angle less than a right angle. Ultimate section of the fifth longitudinal vein not twice the length of the hinder transverse vein.

Bred from *Monophlebus Crawfordi*, Mask., in February.

*Obs.*—A small specimen (long. 0·042 inch, 1·06 mm.) which seems to me to be a male, has the middle transverse vein mid-way between the origin of the second longitudinal vein and the hinder transverse vein.

If this genus is to be placed in the Oscinidæ, it appears to me that it must occupy that position as a somewhat anomalous genus. Not only is the arista to the antennæ entirely wanting and the anal cell present, but I can also detect a rudimentary auxiliary vein and a pale posterior basal transverse vein. As in certain other genera of the Oscinidæ, these flies have the posterior tibiæ a little curved.

*Note.*—I have recently seen "Insect Life" for Jan., 1889, issued by the U.S. Dept. Ag. in which a correspondent states that he is glad the identity of the parasite *(Lestophonus)* found on *Monophlebus* and *Icerya* is considered proved beyond a doubt, but surely this decidedly erroneous conclusion cannot have been arrived at by an examination of the insects.